

CLAIMS

1. A process for the removal of the hydrogen sulfide contained in natural gas, including:
 - a) absorbing the hydrogen sulfide present in natural gas
5 by means of a virgin naphtha, essentially consisting of C₅-C₈ paraffins, in an adsorbing device and with a molar ratio virgin naphtha/H₂S of between 0.85 and 1.5;
 - b) recovering the hydrogen sulfide absorbed by the virgin
10 naphtha as head product of a distillation column operating with a reflux having a temperature ranging from -5 to -20°C;
 - c) recycling the virgin naphtha discharged as bottom product of the distillation column, to the absorption step
15 (a);
 - d) introducing the hydrogen sulfide back to the production field of natural gas, at the temperature and pressure conditions present at the head of the distillation column.
- 20 2. The process according to claim 1, wherein the natural gas is pre-treated to eliminate carbon dioxide.
3. The process according to claims 1 or 2, wherein the absorption step is effected in a filling column.
4. The process according any of the previous claims,
25 wherein the absorption step is effected at room tempera-

ture.

5. The process according any of the previous claims, wherein the distillation column operates at a head temperature of between -9 and -15°C.

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